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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,991	03/19/2004	Tomohiro Nakajima	250487US2	6921
22850	7590	10/17/2005		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER KHATRI, PRANAV V	
			ART UNIT 2872	PAPER NUMBER
DATE MAILED: 10/17/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/803,991

Applicant(s)

NAKAJIMA ET AL.

Examiner

Pranav V. Khatri

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2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) 1-17, 19-23, 27-51 and 53-56 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18, 24-26, 52, 57 and 58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>6/17/04, 6/17/04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Response to Restriction***

Applicant's election with traverse of species (b, vi, and y) in the reply filed on October 6, 2005 is acknowledged. The traversal is on the ground(s) that the species would be coextensive or overlap, and would not be a serious burden if the species of the other embodiments were examined together. This is not found persuasive because the species search would not be linked, and though the search may be coexistent it is not coextensive. Therefore, the search in these areas would be a burdensome. Applicant selects claims 18, 24-26, 52, 57, and 58 as readable on the elected invention.

The requirement is still deemed proper and is therefore made FINAL.

Claim Objections

Regarding claim 26, the claim states the pre-deflection imaging units are located between the beam merging unit and the deflection unit. However, the drawings and specification fail to disclose this, the drawings and specification only discloses it to be between the beam merging unit and light source. Furthermore, this claim is a contradiction to what is known in the art.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 18, 24-25, and 52 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohno et al. (US Patent Application Publication 2002/0145788 A1).

Regarding claim 18, Ohno et al. discloses an optical scanner comprising (see Ohno et al. Fig 1): a plurality of light source units (1a-1d) spaced from each other along a first direction, each having an optical axis along which a light beam from the light source unit is emitted (as seen in Fig 1); a deflection unit (5) that deflects the light beams together and scans the light beams along a second direction perpendicular to the first direction (reflecting off reflectors 4a-4d and then to the deflector is first direction, and the direction after deflector of 5 is perpendicular); a plurality of imaging units (6 and 7) that form an image with each of the light beams (1a-1d) on a corresponding surface to be scanned (Fig 2 Ps); a housing unit (Page 3 Paragraph 0034 Lines 5-8) that holds the light source units (1a-1d), the deflection units (5), and the imaging units (6 and 7), the housing unit including a beam converging unit (3a-3d) located on the axes between the light source units (1a-1d) and the deflection unit (5), configured to

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direct the light beams to the deflection unit (5) such that distances between the light beams along the second direction are decreased in a sequence in which the light beams are arranged, and a beam turning unit (Fig 1 and 2 numeral 8 and 9) that turns the light beams scanned by the deflection unit (5) in a sequence corresponding to the sequence.

Regarding claim 24, Ohno et al. discloses a beam merging unit (4a-4d) located on the optical axes between the light source units (1a-1d) and the deflection unit (5); and a plurality of pre-deflection imaging units (2a-2d, and 3a-3d) each located on one of the optical axes between the beam merging (4a-4d) unit and the light source unit (1a-1d) corresponding to the optical axis, and that converges (3a-3d) the light beam from the light source unit in the first direction on a deflection plane of the deflection unit (5), wherein respective distances between light source units (1a-1d) and the pre-deflection imaging units (2a-2d, 3a-3d) differ from each other relatively to a sequence in which the light source units are aligned in the first direction (as seen in Fig 1).

Regarding claim 25, Ohno et al. discloses a beam merging unit (4a-4d) located on the optical axes between the light source units (1a-1d) and the deflection unit (5); and a plurality of pre-deflection imaging units (2a-2d, and 3a-3d) each located on one of the optical axes between the beam merging (4a-4d) unit and the light source unit (1a-1d) corresponding to the optical axis, and that converges (3a-3d) the light beam from the light source unit in the first direction on a deflection plane of the deflection unit (5), wherein convergences of the pre-

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deflection imaging units differ from each other relatively to a sequence in which the light source units are aligned in the first direction (as seen in Fig 1).

Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeshita et al. (US Patent No. 6,088,146).

Regarding claim 52, Takeshita et al. discloses a plurality of light source units (see Fig 7 numeral 21a-21d) spaced from each other along a first direction and configured to emit light beams; a deflection unit (1) that deflects the light beams together and scans the light beams along a second direction perpendicular to the first direction (as seen in Fig 7); a plurality of imaging units (2A-2B) that form an image with each of the light beams on a corresponding surface (11-14) to be scanned, and include a lens (2A and 2B) shared by the light beams and having no refractive power in the first direction (Col 4 Lines 58-62); and a beam merging unit (25 and 26) configured to turn at least one of the light beams (21a-21d) at a different position, changes distances along the second direction between the light beams incident on the deflection unit such that the distances decreases or become zero (as seen in Fig 7).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno et al. (US Patent Application Publication 2002/0145788 A1).

Regarding claim 26, Ohno et al. discloses a beam merging unit (4a-4d) located on the optical axes between the light source units and the deflection unit (1a-1d); except lacks a plurality of pre-deflection imaging units each located on one of the optical axes between the beam merging unit and the deflection unit, that converges the light beam from the light source unit corresponding to the one of the optical axes in the first direction on a deflection plane of the deflection unit, arranged on a plane parallel to the first direction, and united with other of the pre-deflection imaging units into a unitary construction. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have

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the pre-deflection imaging units located between the beam merging units and the deflection unit, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Claims 57 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeshita et al. (US Patent No. 6,088,146) in view of Yamaguchi et al. (US Patent No. 5,801,746).

Regarding claim 57, Takeshita et al. discloses an optical write unit (see Takeshita et al. Fig 7) that forms latent images on image carriers (11-14), a transfer unit (40) that transfers the toner images onto a sheet of paper, wherein the optical write unit includes an optical scanner having (as seen in Fig 7): a plurality of light source (21a-21d) units spaced from each other along a first direction and configured to emit light beams; a deflection unit (1) that deflects the light beams (21a-21d) together and scans the light beams along a second direction perpendicular to the first direction (as seen in Fig 7); a plurality of imaging units (2A-2B) that form an image with each of the light beams on a corresponding surface to be scanned (11-14), and include a lens shared by the light beams and having no refractive power in the first direction (Col 4 Lines 58-62); and a beam merging unit (25 and 26) configured to turn at least one of the light beams at a different position, changes distances along the second direction between the light beams incident on the deflection unit such that the distances decreases or become zero (as seen in Fig 7). Takeshita et al. is silent about the teaching of a development unit that develops the latent images as toner image.

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However, Yamaguchi et al. teaches of a development unit (see Yamaguchi Fig 1 62 Y, M, C, B) that develops the latent images as toner images.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the image forming apparatus of Takeshita et al. with an image forming apparatus that has a developing unit that develops latent images as toner images of Yamaguchi et al. for the purpose having a developing unit that converts latent images to visual images as the toner images using color toners and a transfer unit transfers the toner images onto the sheet of paper to obtain a color image.

Regarding claim 58, Takeshita et al. in view of Yamaguchi et al. discloses wherein the latent images formed by the optical write unit is electrostatic (see Yamaguchi Col 6 Lines 4-8), the image carriers are photosensitive bodies having the surfaces to be scanned (Takeshita Fig 7 numeral 11-14), the optical write unit (50 Y, M, C, B) scans the light beams emitted from the optical scanner and including color image information respectively onto the surfaces (58 Y, M, C, B) to be scanned to form the latent images, the developing unit converts the latent images to visual images as the toner images using color toners corresponding to the color image information of the light beams respectively, and the transfer unit transfers the toner images onto the sheet of paper to obtain a color image (see Yamaguchi Col 6 Lines 4-15).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pranav V. Khatri whose telephone number is 571-272-8311. The examiner can normally be reached on M-F, 8:30-4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Pranav Khatri
Examiner
10/03/2005



EUNHA P. CHERRY
PRIMARY EXAMINER